

# Effects of Drugs on Oral Health

- Methadone
- Suboxone

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# Land acknowledgement

I would like to begin the presentation by acknowledging that the land on which we gather here in Toronto is on the traditional territory of many nations, including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples.



# Introduction

- Substance abuse and addiction has been a long-standing issue, but the opioid crisis began to escalate in 2013 and has reached epidemic levels. The lives of many Canadians have been impacted by drug addiction, but it is estimated that the First Nations populations is 20% to 25% greater impacted than other populations in Canada.

## Reasons First Nations are Greater Impacted:

- Historical Trauma
- Socio-economic Challenges
- Limited Access to Treatment
- Cultural Disconnection



# Drugs Involved in The Opioid Crisis

- **Prescription Opioids :**
- Fentanyl, Oxycodone, hydrocodone, Morphine
- **Illicit Opioid: Heroin**

**Why are Opioids so Addictive?**



# What exactly are these drugs?

## Methadone:

Methadone is a synthetic opioid used to treat opioid addiction and manage pain. It works by stimulating the same receptors in the brain as other opioids but in a more controlled manner that has a longer duration than other opioids.

It would be taken daily for the reason of rehabilitation, and it is available in either liquid, tablet or injectable forms. Compared to other drugs (opioids), methadone works longer, it works fast, it can be administered more often, it is easily absorbed (high oral bioavailability) and relatively low cost.

When Methadone is taken as prescribed it is effective and safe and helps individuals reclaim active and meaningful lives. Methadone is only a part of the comprehensive treatment.



Patients taking Methadone to treat drug dependency will receive the medication under supervision. The length of time a person receives the Methadone treatment varies. The treatment will be patient specific and there may be cases where patients would require long term maintenance where the patient will work with their practitioner to gradually reduce the methadone dosage to prevent withdrawal.

Other medications may interact with methadone and produce additional side-effects, therefore patients should share their complete health history with providers before starting the treatment.

Methadone, used in the rehabilitation of drug-users, is available as a sugar-free preparation; however, the sugar-based version is most often used.



## The Effects of Methadone on The Oral Cavity

Patients with drug dependency have a higher tendency towards poor oral health. This can be attributed to many reasons, some of which would be personal neglect associated with emotional and physical dependence. This normally produces negative attitudes towards dental care, poor oral hygiene habits, and low overall awareness about oral health.

When patients receive Methadone treatment, they generally have reduced salivary flow (called Xerostomia). A dry mouth, in combination with the poor diet and high sugar intake frequently observed in drug addiction patients, creates a favorable environment for the formation of plaque and development of caries and periodontal diseases.



# Risks factors for oral diseases associated with methadone users:



- Personal neglect
- Low general and oral health awareness
- Dental anxiety and fear
- Impaired access to oral health care services (including lack of insurance, fear, lifestyle, poor memory)
- Dry mouth
- Altered taste response and craving for sweets
- Poor diet and malnutrition
- The use of sweetened Methadone syrup
- Altered oral microbiome





# Suboxone

Suboxone is a narcotic analgesic combination of Buprenorphine and Naloxone.

Buprenorphine is an opioid or narcotic medication, and Naloxone blocks the effects of drug medication, including pain relief or feelings of well-being that can lead to drug abuse. Suboxone is used to treat narcotic or drug addiction and can also be used to treat pain management. Suboxone can be administered either using an oral film or tablet that is placed under the tongue until it dissolves.

One of the biggest negative side effects for using Suboxone is the tooth problems it may cause especially for individuals with a history of cavities.



# The Effects of Suboxone on The Oral cavity

Suboxone has been known to cause issues with tooth decay. The acidity in Suboxone can cause a range of unpleasant side effects in the mouth, one of which is tooth decay. Many dentists have noted that of their patients who start using Suboxone, experiences new dental issues.

The most common factor that produces acids in the mouth is the activity of bacteria in the mouth. Tooth decay and cavities develop when teeth are exposed to an acidic environment.

Suboxone has a low pH of 3.4, indicating that it is extremely acidic.

Suboxone strips are designed to be placed under the tongue or in the cheek and held in place until fully dissolved for about 5 to 10 minutes.

Holding the medicine in the mouth and allowing it to sit on the teeth for up to 10 minutes every day leads to greater contact between the teeth and Suboxone. Some patients receive up to three doses of Suboxone per day which significantly increases the exposure of acid on the teeth. This acidity may affect the oral environment in more than one way and creates a good habitat for multiple unwanted issues.

These would include:

- tooth decay
- dry mouth
- cavities
- chalky plaque buildup on the teeth
- gum disease
- abscesses
- dental fillings
- cracked teeth



# How common is tooth decay caused by Suboxone?

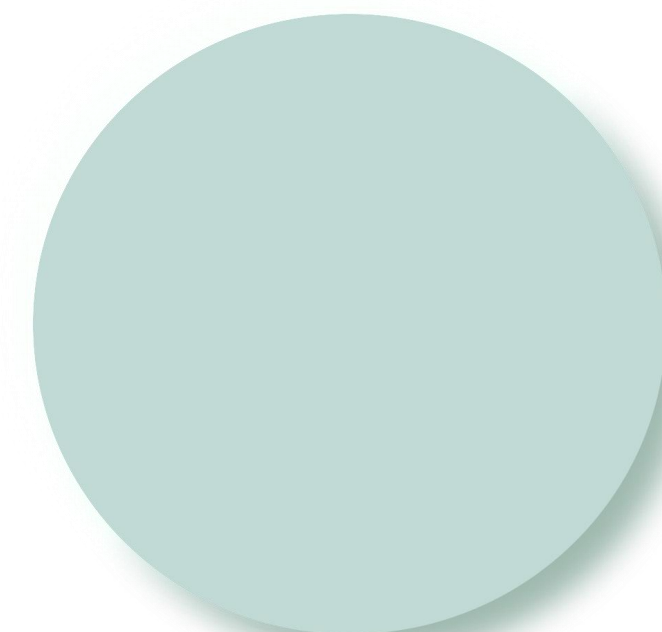
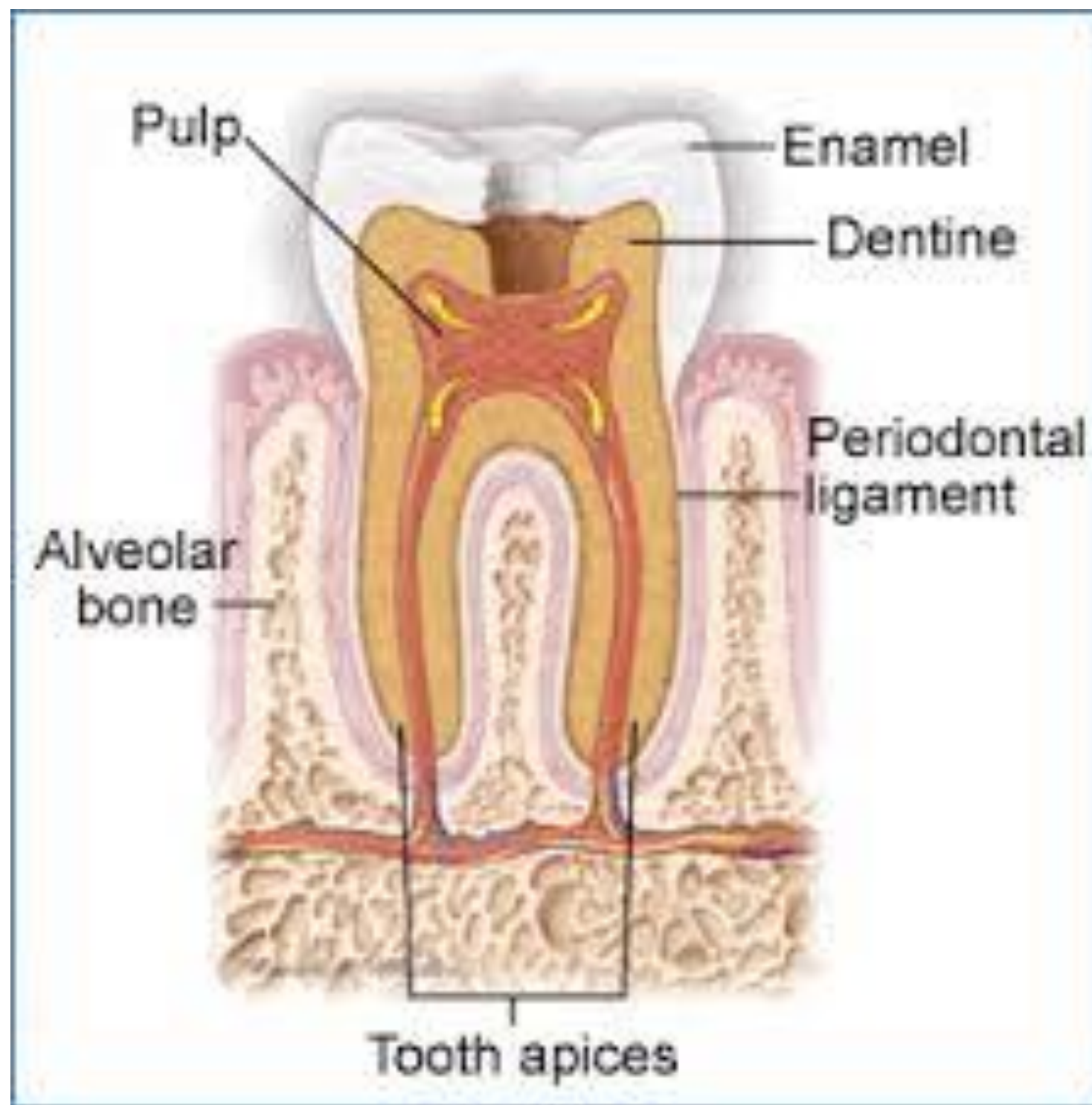
While Suboxone has been linked to dental issues, it's difficult to know whether it is inevitable. Many of those who use Suboxone also do other things to negatively impact their teeth.

Using Suboxone in conjunction with smoking, regular soda consumption and the use of other medications all contributes to an overall compromised oral environment.

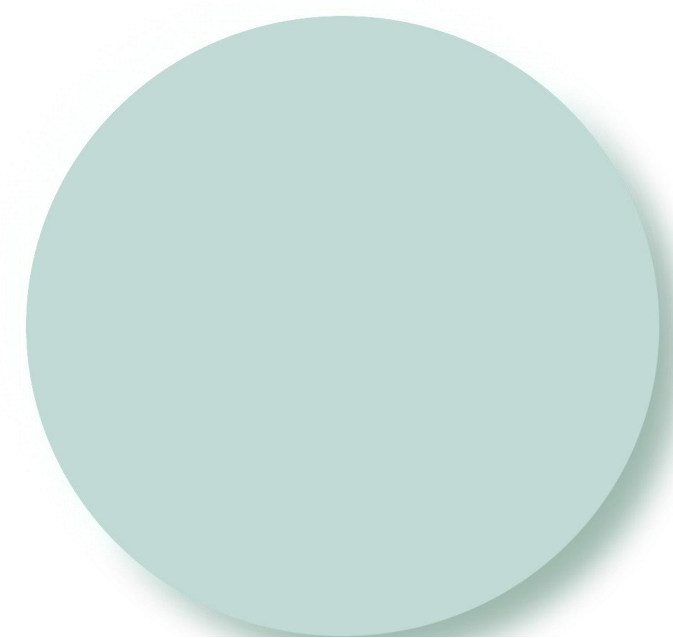
There are many ways to protect dental and oral health while using Suboxone. The possible effects on teeth should not be a reason to stop using Suboxone, and there are ways to prevent oral and dental damage.



# Tooth Anatomy



# Caries Process



# How does Caries develop?

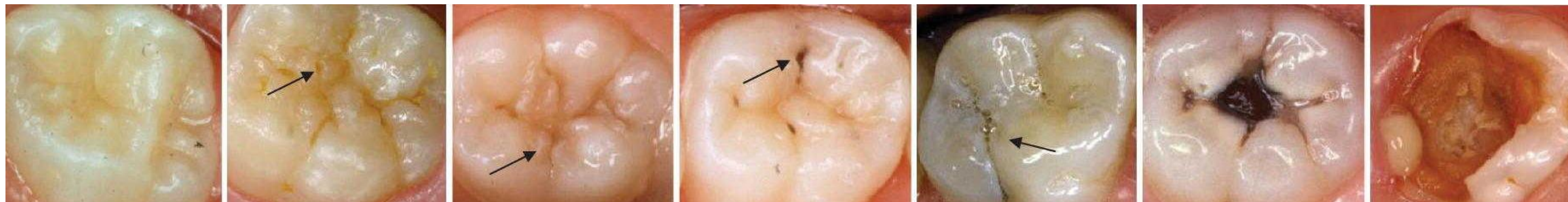


**1 stage:**  
plaque appears and surface  
caries develops

**2 stage:**  
caries damage to  
tooth enamel

**Stage 3:**  
caries damage to  
the dentin

**Stage 4:**  
caries damage to  
the pulp



# So How Can We Prevent Carious Lesions?



1. Reduce the amount of acid in the mouth
2. Re-mineralize the enamel
3. Address the xerostomia (dry mouth)



# Methods That Help to Neutralize Acids

For a healthy oral environment, we would want the pH of the oral cavity to be neutral -around 7.1. The reason for this would be that bacteria cannot thrive in an alkaline environment.

Most foods and drinks we consume are acidic and it takes the oral environment between 30 and 45 min to restore the pH after eating.

An acidic environment is detrimental to the enamel that protects our teeth.

The PH can be restored quicker by rinsing with warm sodium bicarbonate (baking soda )rinses (1/2 teaspoon of baking soda per 250ml glass of water). Baking soda is alkaline and rinsing the mouth with this solution for 30 seconds after medications and eating will help to restore the pH at a much faster rate. **This would not be advised for people with kidney disease.**



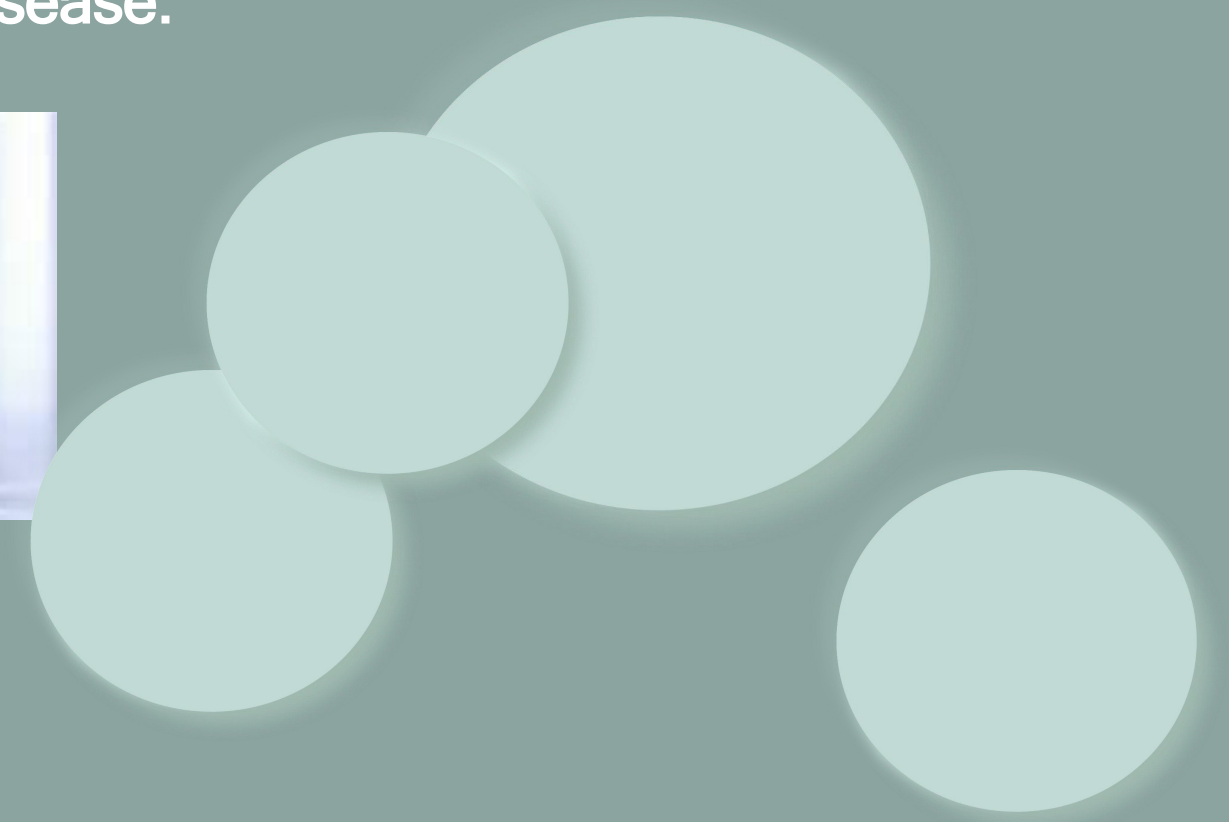


# Saltwater Mouth Rinses

Warm (lukewarm) saltwater rinses has many benefits for the oral environment.

- Saltwater kills many harmful bacteria and prevent infections.
- Aside from their disinfectant properties, saltwater rinses can also be used to help treat other oral concerns, from canker sores to allergies.
- They also have positive effects on respiratory health, making them remedies for cold and flu season.
- The harmful bacteria prefer the acidic environment, so once the oral environment is neutralized, the mouth can become less inflamed and healthier.

Saltwater rinses are contraindicated for persons with high blood pressure or kidney disease.



# Foods That Can Help Neutralize The Ph in The Mouth

- Leafy Greens.
- Almonds
- Avocado
- Cucumbers
- Cheese
- Non- starchy vegetables like broccoli, carrots and beets.



# Re-mineralization of the Enamel

1. Brush with fluoridated toothpaste minimum twice per day. When selecting toothpastes its important to use toothpaste that is low abrasive to help preserve the integrity of your enamel. Some examples would include Sensodyn Pronamel or Colgate Enamel Health.
2. Whitening toothpastes tend to be more abrasive due to added polishing agents, so it's best to only use these products periodically for a short duration of time.



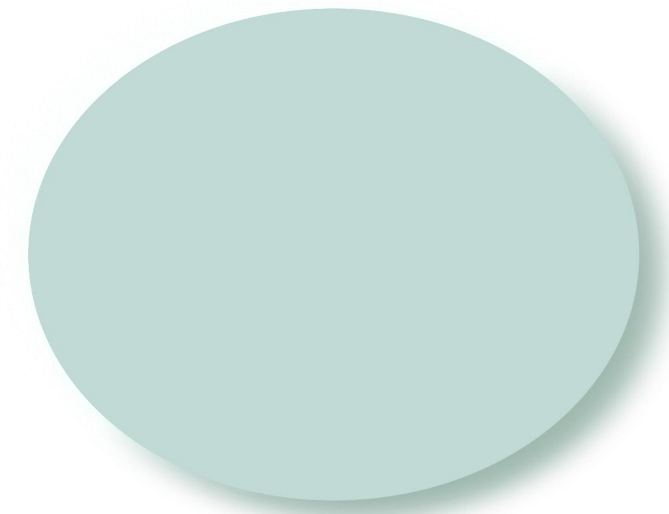
# Re-mineralization of the Enamel Continued

Remin toothpaste by Oral Science. Rather than using fluoride to harden enamel, the toothpaste works by replacing the calcium and phosphate ions in the enamel. It works by repairing enamel in the early stages of decay, and the replacement of mineral ions also provides sensitivity protection for those who suffer from hot and cold sensitivity.



Fluoride varnish application from your dentist or dental hygienist.

Silver Diamine Fluoride (SDF) can arrest cavities in their tracks, SDF is an antimicrobial, re-mineralizing solution that is a low cost and effective option for those living in remote communities where there is not always a dentist present. Treatment with SDF in the meantime will stop the spread and progression of cavities.



# How to Minimize The Effects of Dry Mouth

1. Frequent sips of water throughout the day
2. Avoid mouth rinses with alcohol such as Listerine, instead opt for ACT Dry Mouth, OptiRinse or Therabreath Dry mouth oral rinses
3. Chew sugarless gum to stimulate saliva flow or xylitol lozenges such as those made by MediNatura
4. Use products like biotene and Xylimelts
5. Use moisturizing gels like Oralife Moisturizing Gel
6. Stay hydrated by drinking plenty of water
7. Avoid Caffeine and alcohol as these can worsen dry mouth
8. Use a humidifier at night to keep air moist
9. Speak to your health care provider about possible prescription medications that can help to increase saliva production



# Traditional Healing

Incorporating traditional medicine with Western medicine to assist with oral health care can help support a more holistic approach in the healing process. Some natural products that can be used for oral health issues include:

1. Clove oil- Contains eugenol that has analgesic and anti-inflammatory properties to relieve toothaches until they can be seen by a dentist.
2. Sage Tea - Has astringent and antiseptic properties, and may help soothe sore gums and freshen breath
3. Cedar leaves and bark tea - The cedarwood has anti-inflammatory properties which can be beneficial for gingival inflammation.



# Questions?



# THANK YOU

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